CLAIMS

1. Viral particle consisting of structural elements not derived from an alphavirus and containing an alphavirus-derived vector made replication-defective by deletion, or replacement with at least one transgene, of the structural genes, ***characterized*** in that the structural elements of said particle are not encoded by the genome of the alphavirus-derived vector.

2. Viral particle according to Claim 1, ***characterized*** in that the structural elements correspond to the VSV-G envelope protein alone.

3. Viral particle according to Claim 1, ***characterized*** in that the structural elements correspond to the structural proteins of a retrovirus.

4. Particle according to one of Claims 1 to 3, ***characterized*** in that the alphavirus is a Semliki forest virus.

5. Particle according to one of Claims 1 to 4, ***characterized*** in that the genome of the alphavirus-derived vector contains the extended packaging sequence of MLV vectors.

6. Particle according to one of Claims 1 to 5, ***characterized*** in that the genome of the alphavirus-derived vector is devoid of psi sequence.

7. Particle according to one of Claims 1 to 6, ***characterized*** in that the genome of the alphavirus-derived vector comprises a 5'-positioned eukaryotic promoter.

8. Particle according to one of Claims 1 to 7, ***characterized*** in that the alphavirus-derived vector contains a mutated p26S promoter.

9. Use of the viral particle that is the subject of one of Claims 1 to 8, for infecting a eukaryotic cell *in vitro*.

10. Pharmaceutical composition comprising the viral particle that is the subject of one of Claims 1 to 8.

11. Use of the viral particle that is the subject of one of Claims 1 to 8, for producing a medicinal product for use in the treatment of cancer.

12. Method for obtaining viral particles consisting of structural elements not derived from an alphavirus and containing an alphavirus-derived vector made replication-defective by deletion, or replacement with at least one transgene, of the structural genes, consisting:

- in expressing in *trans*, in a cell line, the genes encoding the structural elements not derived from the alphavirus and the alphavirus-derived vector,
- in recovering the viral particles present in the cell culture supernatant.

13. Method according to Claim 12, ***characterized*** in that the structural elements correspond to the VSV-G envelope protein.

14. Method according to Claim 13, ***characterized*** in that the expression in *trans* is obtained by cotransfection of a cell line with the vector for expressing the VSV-G envelope and the alphavirus-derived vector, the cotransfection being carried out in two distinct steps, respectively the transfection of the line with the vector expressing the VSV-G envelope gene, and then a second transfection with the alphavirus-derived vector.

15. Method according to Claim 14, ***characterized*** in that the transfected cell line is a 293T cell line.

16. Method according to Claim 12, ***characterized*** in that the structural elements correspond to the structural proteins of a retrovirus.

17. Method according to Claim 16, ***characterized*** in that the expression in *trans* is obtained by transfection of an encapsidation cell line, that produces replication-defective retroviruses, with the alphavirus-derived vector.

18. Method according to Claim 17, ***characterized*** in that the encapsidation cell line is obtained by stable transfection of a cell line with a first viral element expressing the retroviral *GAG* and *POL* genes and a second viral element expressing the retroviral *ENV* gene.

19. Method according to Claim 16, ***characterized*** in that the expression in *trans* is obtained by triple transfection of a 293T cell line by introduction of a first viral element expressing the retroviral *GAG* and *POL* genes, of a second viral element expressing the retroviral *ENV* gene and of the alphavirus-derived vector.

20. Method according to one of Claims 12 to 19, ***characterized*** in that the alphavirus is a Semliki forest virus.

21. Method according to one of Claims 12 to 20, ***characterized*** in that the genome of the alphavirus-derived vector contains the extended packaging sequence of MLV vectors.

22. Method according to one of Claims 12 to 21, ***characterized*** in that the genome of the alphavirus-derived vector is devoid of psi sequence.

23. Method according to one of Claims 12 to 22, ***characterized*** in that the genome of the alphavirus-derived vector comprises a 5'-positioned eukaryotic promoter.

24. Method according to one of Claims 12 to 23, ***characterized*** in that the alphavirus-derived vector contains a mutated p26S promoter.